Project File MEMO

DATE: April 20, 2018

TO: Project File

FROM: Galen Anderson
West Zone Hydrologist

/s/ Galen Anderson
Signature

04/20/2018
Date

SUBJECT: Hydrology Review
Ewing Reservoir Fuels Reduction Project

PROJECT DESCRIPTION: The purpose of this project is to reduce the fuel loading, provide for firefighter and community safety, and improve habitat and forest health in the 40 acre Forest Service parcel adjacent to Bureau of Land Management land and private properties in Hayfork. This parcel is primarily brush and oak and pine woodland, with a small ephemeral stream and a small wetland.

	Cat A	Cat B	Analysis Required	Date
Consult with Water Board	X		None	March 2018 MER

Watershed(s) (HUC5)	Lower Hayfork Creek	1801021204
Subwatershed(s) (HUC6)	Rusch Creek-Little Creek	180102120403
Major Stream(s)	Hayfork Creek	

Factors to Consider: Extraordinary Circumstances

	Present?			Protection Measure(s) Needed / Notes			Extraordinary Circumstance?	
	Yes	Potential	No	Yes	No	If Yes, List	Yes	No
Floodplains			X		X			X
Wetlands	X			X		A small vernal wetland was delineated by the US Army Corps of Engineers in 2010. The area was cleared then and the wetland suffered no long term effects. As long as resource protection measures (RPMs) and best management practices (BMPs) are followed, there will be no adverse effect to the wetland.		X
Municipal Water Supply	X			X		This project will not negatively impact municipal or domestic water supplies if the RPMs and BMPs are implemented as prescribed		X

Forest Plan

	Consistent with Forest Plan Direction?		Protection Measure(s) Needed?			Write-Up Needed?	
	Yes	No	Yes	No	If Yes, List	Yes	No
Management Indicators	X			X			X
Aquatic Conservation Strategy (ACS) Objectives	X			X	The implementation of this project will not prevent attainment of the ACS objectives.		X

Other factors

	Present?			Protection Measure(s) Needed / Notes			Additional analysis needed?	
	Yes	Potential	No	Yes	No	If Yes, List	Yes	No
TMDL Listed	X				X	The SFTR is listed for sediment. The project is unlikely to discharge sediment into a watercourse.		X
Sediment Discharge Potential			X		X			X
Aquatic Management Zones (AMZ)	X			X		Application of the prescribed resource protection measures will ensure the AMZs (wetland and riparian reserves) will not be negatively affected.		X

RPMs

Resource Protection Measures	
Wetland (AMZ)	• Equipment Exclusion Zone (EEZ): 50 feet from the edge of the wetland as delineated and marked. • Piling or burning will not occur closer than 50' from the wetland; back burn toward the wetland is permitted.
Riparian Reserves (AMZ)	• EEZ: 50 feet from the edge of the watercourse or at the slope break if the slope from the stream channel is >35%. • Piling or burning will not occur closer than 50' from the stream channel; back burn toward the stream channel is permitted. • Hazard trees within riparian reserves will be felled and left on site unless this results in excessive fuel loading. • Unmapped riparian reserves (Forest GIS database) but identified in the field will be defined in accordance with the Forest Plan.
Upland	• Hand piles of thinned fuels will be placed in a checkerboard pattern whenever possible. • Do not operate mechanized equipment on slopes >35%.

BMPs

National BMPs	
Plan-3 Aquatic Management Zone Planning	• Develop site-specific BMPs. • Manage the AMZs to maintain or improve long-term health ans sustainability of the riparian ecosystem consistent with desired conditions, goals, and objectives in the land management plan. • Determine the width of the AMZs in the project area that may be affected by the proposed activities. • Design and implement project activities in the AMZ to avoid or minimize unacceptable impacts to riparian vegetation, steep slopes, or unstable areas. • Maintain or provide sufficient ground cover to encourage infiltration, avoid or minimize erosion, and to filter sediment. • Avoid, minimize, or restore detrimental soil compaction. • Mark the boundaries of the AMZ and sensitive areas on the ground before land disturbing activities.
Fire-1 Wildland Fire Management Planning	• Set target levels for desired ground cover remaining after burning based on slope, soil type, and risk of soil and hillslope movement. • Plan burn areas to use natural or in-place barriers that reduce or limit fire spread, such as low fuel hazard areas, streams, or wetland features to minimize the need for fireline construction. • Use prescribed fire in the AMZ only when suitable to achieve long-term AMZ-desired conditions and management objectives.
Fire-2 Use of Prescribed Fire	• Conduct prescribed fires to minimize the residence time on the soil while meeting the burn objectives. • Construct fireline to the minimum size and standard necessary to contain the prescribed fire and meet overall project objectives. • Rehabilitate or otherwise stabilize fireline in areas that pose a risk to water quality. • Alter prescribed fire prescriptions and control actions in the AMZs as needed to maintain ecosystem structure, function, and processes and onsite and downstream water quality. • Avoid or minimize complete removal of the organic layer when burning in riparian areas or wetlands to maintain soil productivity, infiltration capacity, and nutrient retention. • Avoid piling and burning for slash removal in AMZs to the extent practicable.
Veg-3 Aquatic Management Zones	• Clearly delineate AMZ locations and boundaries in the project area using suitable markings and structures. • Specify AMZ layout, maintenance, and operating requirements in contracts, design plans, and other necessary project documentation. • Use suitable measures to avoid or minimize soil disturbance from equipment operations to stay within acceptable disturbance levels when conducting mechanical vegetation treatment operations. • Prescribe mechanical site preparation techniques and fuels and residual vegetation treatments that avoid or minimize excessive erosion, sediment delivery to nearby water bodies, or damage to desired riparian vegetation. • Modify mechanical vegetation treatment prescriptions in the AMZs as needed to maintain ecosystem structure, function, and processes. • Conduct equipment operations in a manner that maintains or provides sufficient ground cover to meet land management plan desired conditions, goals, and objectives to minimize erosion and trap sediment. • Adjust operations in the AMZ to avoid, minimize, or mitigate detrimental soil impacts when they are occurring.

AqEco-2 Operations in Aquatic Ecosystems	• Identify the wetland dependent species resident in the project area to determine protection strategies. • Confirm extent of wetland and mark it in the project area. • Locate access and staging areas near the project site but outside AMZs, wetlands, and sensitive soil areas. • Schedule operations in the wetland to occur during least critical periods. Consider the dormant season for vegetation. • Conduct operations during dry periods. • Remove project debris from the wetland in a manner that will cause the least disturbance.
Road-10 Equipment Refueling and Servicing	• Refuel and service equipment only in designated staging areas, away from the AMZ, groundwater recharge areas, and waterbodies. • Develop or use existing spill prevention control and countermeasures. • Use suitable measures to contain spills and minimize soil contamination and seepage to groundwater.
National BMP Evaluation Forms	• AqEco A – Active Construction of Aquatic Ecosystem Improvements • Fire A – Use of Prescribed Fire • Roads I – Equipment Refueling and Servicing Areas • Vegetation C – Mechanical Site Treatments

Notes

Application of the resource protection measures and best management practices listed will ensure this project will have minimal impact on the wetland and stream in the project area and have a negligible impact on water quality.